BRUHATH BANGALORE MAHANAGARA PALIKE

Name of the Agency	:	**Technical Manager**, KRIDL, Bangalore.
Name of the Work	:	Improvements of roads and drains in UAS Layout temple and cross roads in Jakkur Ward No.07 of Byatarayanapura, Kodigehalli Sub Division, BBMP, Bangalore.
Estimate Cost	:	Rs.

QUALITY CONTROL REPORTS TO

Asst. Executive Engineer,
Kodigehalli Sub Division,
BBMP, Bangalore.

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QUALITY CONTROL REPORTS FOR

WET MIX MACADAM (WMM)

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Job No.: CTCE/BBMP/W.No.07/KRIDL/WMM/Gradation/2014-15 11.07.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements of Roads and Drains in UAS Layout temple and cross roads in Jakkur Ward No.07 of Byatarayanapura Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/26/2014-15 Dated: 08.07.2014

Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): **26000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	990	990	3.8	96.2	95-100
22.4	5485	6475	24.9	75.1	60-80
11.2	5425	11900	45.8	54.2	40-60
4.75	4010	15910	61.2	38.8	25-40
2.36	4595	20505	78.9	21.1	15-30
0.600	2595	23100	88.8	11.2	8-22
0.075	2615	25715	98.9	1.1	0-8

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Basaveshwaranagar,
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Assistant Executive Engineer,
Kodigehalli Sub Division,
B.M.P.

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11.07.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements of Roads and Drains in UAS Layout temple and cross roads in Jakkur Ward No.07 of Byatarayanapura Kodigehalli Sub Division, BBMP,
Reference	AEE/(KOD.SUB.DIV)/26/2014-15 Dated: 08.07.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	11.07.2014

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	381	382	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	81	82.5	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	298.5	299	
4	Aggregate Impact value = percent fines	21.32	21.65	21.73	
	100* (W_2/W_1)%				21.57

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No.: CTCE/BBMP/W.No.07/KRIDL/WMM/S-T/2014-15 11.07.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of Work	Improvements of Roads and Drains in UAS Layout temple and cross roads in Jakkur Ward No.07 of Byatarayanapura Kodigehalli Sub Division, BBMP,
Reference	AEE/(KOD.SUB.DIV)/26/2014-15 Dated: 08.07.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	11.07.2014

Result : Flakiness Index = **12.36%**

Elongation Index = **13.20%**

Result : Combined Flakiness & Elongation index 25.56%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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11.07.2014

ATTERBERG LIMITS TEST FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

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Reference : AEE/(KOD.SUB.DIV)/26/2014-15 Dated: 08.07.2014

Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

As per MORTH Table 400-11

Sl. No.	Particulars	Test Results	Standards as per Specifications
1	Liquid Limit, %	22.60	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

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Kodigehalli Sub Division,
Yelahanka, B.M.P.,

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11.07.2014

GRADATION FOR WMM
MORTH TABLE-400-11

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Reference : AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014

Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **25475**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	890	890	3.5	96.5	95-100
22.4	6255	7145	28.0	72.0	60-80
11.2	5485	12630	49.6	50.4	40-60
4.75	4310	16940	66.5	33.5	25-40
2.36	3680	20620	80.9	19.1	15-30
0.600	2345	22965	90.1	9.9	8-22
0.075	2215	25180	98.8	1.2	0-8

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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **25800**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	845	845	3.3	96.7	95-100
22.4	6285	7130	27.6	72.4	60-80
11.2	4895	12025	46.6	53.4	40-60
4.75	3590	15615	60.5	39.5	25-40
2.36	3515	19130	74.1	25.9	15-30
0.600	4100	23230	90.0	10.0	8-22
0.075	2185	25415	98.5	1.5	0-8

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GRADATION FOR WMM
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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **26415**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	815	815	3.1	96.9	95-100
22.4	6250	7065	26.7	73.3	60-80
11.2	4585	11650	44.1	55.9	40-60
4.75	4285	15935	60.3	39.7	25-40
2.36	3650	19585	74.1	25.9	15-30
0.600	4290	23875	90.4	9.6	8-22
0.075	2050	25925	98.1	1.9	0-8

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GRADATION FOR WMM
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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **23550**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	250	250	1.1	98.9	95-100
22.4	6585	6835	29.0	71.0	60-80
11.2	5215	12050	51.2	48.8	40-60
4.75	4585	16635	70.6	29.4	25-40
2.36	2250	18885	80.2	19.8	15-30
0.600	2215	21100	89.6	10.4	8-22
0.075	2000	23100	98.1	1.9	0-8

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GRADATION FOR WMM
MORTH TABLE-400-11

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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **26825**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	865	865	3.2	96.8	95-100
22.4	5640	6505	24.2	75.8	60-80
11.2	4685	11190	41.7	58.3	40-60
4.75	5210	16400	61.1	38.9	25-40
2.36	3515	19915	74.2	25.8	15-30
0.600	4250	24165	90.1	9.9	8-22
0.075	2250	26415	98.5	1.5	0-8

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GRADATION FOR WMM
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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **20540**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	625	625	3.0	97.0	95-100
22.4	6590	7215	35.1	64.9	60-80
11.2	1820	9035	44.0	56.0	40-60
4.75	3865	12900	62.8	37.2	25-40
2.36	3160	16060	78.2	21.8	15-30
0.600	2545	18605	90.6	9.4	8-22
0.075	1585	20190	98.3	1.7	0-8

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GRADATION FOR WMM
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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **23370**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	380	380	1.6	98.4	95-100
22.4	5250	5630	24.1	75.9	60-80
11.2	5125	10755	46.0	54.0	40-60
4.75	4210	14965	64.0	36.0	25-40
2.36	3515	18480	79.1	20.9	15-30
0.600	2250	20730	88.7	11.3	8-22
0.075	2350	23080	98.8	1.2	0-8

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GRADATION FOR WMM
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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **23170**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	250	250	1.1	98.9	95-100
22.4	5210	5460	23.6	76.4	60-80
11.2	5000	10460	45.1	54.9	40-60
4.75	4315	14775	63.8	36.2	25-40
2.36	3450	18225	78.7	21.3	15-30
0.600	2185	20410	88.1	11.9	8-22
0.075	2410	22820	98.5	1.5	0-8

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Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **22690**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	220	220	1.0	99.0	95-100
22.4	5205	5425	23.9	76.1	60-80
11.2	4585	10010	44.1	55.9	40-60
4.75	4250	14260	62.8	37.2	25-40
2.36	3385	17645	77.8	22.2	15-30
0.600	2190	19835	87.4	12.6	8-22
0.075	2505	22340	98.5	1.5	0-8

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Job No.: CTCE/BBMP/W.No.07/KRIDL/WMM/Gradation/2014-15

11.07.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements of roads and drains in UAS Layout temple and cross roads in Jakkur Ward No.07 of Byatarayanapura, Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014

Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **22430**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	250	250	1.1	98.9	95-100
22.4	5645	5895	26.3	73.7	60-80
11.2	4280	10175	45.4	54.6	40-60
4.75	4100	14275	63.6	36.4	25-40
2.36	3280	17555	78.3	21.7	15-30
0.600	2150	19705	87.9	12.1	8-22
0.075	2415	22120	98.6	1.4	0-8

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11.07.2014

GRADATION FOR WMM
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Agency : **Technical Manager,** KRIDL, Bangalore.

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Reference : AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014

Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **21350**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	255	255	1.2	98.8	95-100
22.4	5250	5505	25.8	74.2	60-80
11.2	4120	9625	45.1	54.9	40-60
4.75	4050	13675	64.1	35.9	25-40
2.36	3265	16940	79.3	20.7	15-30
0.600	2050	18990	88.9	11.1	8-22
0.075	2050	21040	98.5	1.5	0-8

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GRADATION FOR WMM
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Reference : AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014

Date of Testing : 11.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **21070**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	265	265	1.3	98.7	95-100
22.4	5150	5415	25.7	74.3	60-80
11.2	4050	9465	44.9	55.1	40-60
4.75	3895	13360	63.4	36.6	25-40
2.36	3310	16670	79.1	20.9	15-30
0.600	2085	18755	89.0	11.0	8-22
0.075	2005	20760	98.5	1.5	0-8

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Job No.: CTCE/BBMP/W.No.07/KRIDL/WMM/AIV/2014-15

12.07.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements of roads and drains in UAS Layout temple and cross roads in Jakkur Ward No.07 of Byatarayanapura, Kodigehalli Sub Division, BBMP, Bangalore.
Reference	AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	12.07.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	378	379	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	78	79	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	300	
4	Aggregate Impact value = percent fines	20.63	20.84	
	100* (W_2/W_1)%			**20.74**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Aggregate Impact Value

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Reference	AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	12.07.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	384	385	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	83	84	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	301	
4	Aggregate Impact value = percent fines	21.61	21.82	
	100* (W_2/W_1)%			**21.72**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Aggregate Impact Value

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Reference	AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	12.07.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	301	
4	Aggregate Impact value = percent fines	21.82	22.02	
	100* (W_2/W_1)%			**21.92**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Reference	AEE/(K.O.D.SUB.DIV)/26/2014-15 Dated: 08.07.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	12.07.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	389	390	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	88	89	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	301	
4	Aggregate Impact value = percent fines	22.62	22.82	
	100* (W_2/W_1)%			**22.72**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	12.07.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	389	390	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	87	88	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	302	
4	Aggregate Impact value = percent fines	22.37	22.56	
	100* (W_2/W_1)%			**22.46**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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